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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,872	11/18/2003	Akira Morita	117801	3141

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EXAMINER

SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/714,872

Applicant(s)

MORITA, AKIRA

Examiner

Leonid Shapiro

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 5, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Cairns et al. (US patent No. 6,806,854 B2).

As to claim 5, Cairns et al. teaches an electro-optical device (See Col. 4, Lines 25-37) comprising:

first to  $i$ th scan lines ( $i$  is an integer of two or more (See Fig. 1, item 7);

first to  $i$ th color component signal lines (See Fig. 1, item 5);

first to  $i$ th switching elements, each of which is connected to a  $j$ th scan line ( $1 \leq j$ ,  $j$  is an integer) and a  $j$ th color component signal line and is controlled by a  $j$ th select signal supplied to the  $j$ th scan line (See Fig. 1, item 6);

first to  $i$ th pixel electrodes, each of which is connected to a  $j$ th switching element (See Fig. 1, item 4); and

first to  $i$ th demultiplex switching elements, each of which is connected to the  $j$ th color component signal line at one end and to a signal line at the other end, and is controlled by a  $j$ th demultiplex control signal, multiplexed first to  $i$ th color component signals being output to the signal line (See Figs. 9-10, items 60-61, Col. 8, Lines 44-62),

wherein the select signal generation circuit generates the  $j$ th select signal so that at least the  $j$ th switching element is in an ON state when a  $j$ th demultiplex switching

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element shifts from an ON state to an OFF state and that the jth switching element is set to an OFF state before the jth demultiplex switching element is set to the ON state again after the jth demultiplex switching element has shifted to the OFF state (See Fig. 9, items 60-61, Col. 9, Lines 4-7).

As to claim 10, Cairns et al. teaches a method of driving an electro-optical device (See Col. 4, Lines 25-37) which has:

first to ith scan lines (i is an integer of two or more) (See Fig. 1, item 7);

first to ith color component signal lines (See Fig. 1, item 5);

first to ith switching elements, each of which is connected to a jth scan line ( $1 \leq j$ , j is an integer) and a jth color component signal line and is controlled by a jth select signal supplied to the jth scan line (See Fig. 1, item 6);

first to ith pixel electrodes, each of which is connected to a jth switching element (See Fig. 1, item 4); and

first to ith demultiplex switching elements, each of which is connected to the jth color component signal line at one end and to a signal line at the other end, and is controlled by a jth demultiplex control signal, multiplexed first to ith color component signals being output to the signal line (See Figs. 9-10, items 60-61, Col. 8, Lines 44-62),

the method comprising setting at least the jth switching element is in an ON state when a jth demultiplex switching element shifts from an ON state to an OFF state and that the jth switching element is set to an OFF state before the jth demultiplex switching element is set to the ON state again after the jth demultiplex switching element has shifted to the OFF state (See Fig. 9, items 60-61, Col. 9, Lines 4-7).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cairns et al. in view of Knapp et al. (US Patent No. 6,700,562).

As to claim 1, Cairns et al. teaches a driver circuit for driving an electro-optical device (See Col. 4, Lines 25-37) which has:

first to  $i$ th scan lines ( $i$  is an integer of two or more (See Fig. 1, item 7);

first to  $i$ th color component signal lines (See Fig. 1, item 5);

first to  $i$ th switching elements, each of which is connected to a  $j$ th scan line ( $1 \leq j$ ,  $j$  is an integer) and a  $j$ th color component signal line and is controlled by a  $j$ th select signal supplied to the  $j$ th scan line (See Fig. 1, item 6);

first to  $i$ th pixel electrodes, each of which is connected to a  $j$ th switching element (See Fig. 1, item 4); and

first to  $i$ th demultiplex switching elements, each of which is connected to the  $j$ th color component signal line at one end and to a signal line at the other end, and is controlled by a  $j$ th demultiplex control signal, multiplexed first to  $i$ th color component signals being output to the signal line (See Figs. 9-10, items 60-61, Col. 8, Lines 44-62),

wherein the select signal generation circuit generates the  $j$ th select signal so that at least the  $j$ th switching element is in an ON state when a  $j$ th demultiplex switching element shifts from an ON state to an OFF state and that the  $j$ th switching element is set to an OFF state before the  $j$ th demultiplex switching element is set to the ON state again after the  $j$ th demultiplex switching element has shifted to the OFF state (See Fig. 9, items 60-61, Col. 9, Lines 4-7).

Cairns et al. does not disclose the driver circuit comprising a select signal generation circuit which generates first to  $i$ th select signals, the first to  $i$ th select signals controlling the first to  $i$ th switching elements based on first to  $i$ th demultiplex control signals respectively.

Knapp et al. teaches the driver circuit comprising a select signal generation circuit which generates first to  $i$ th select signals, the first to  $i$ th select signals controlling the first to  $i$ th switching elements respectively (See Figs. 3, 5, items G1-G3, from Col. 6, Line 46 to Col. 7, Line 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Knapp et al. into Cairns et al. system in order to simplify fabrication of the display device (See Col. 2, Lines 31-42 in the Knapp et al. reference).

As to claim 6, Cairns et al. teaches an electro-optical device (See Col. 4, Lines 25-37) comprising:

first to  $i$ th scan lines ( $i$  is an integer of two or more (See Fig. 1, item 7);

first to  $i$ th color component signal lines (See Fig. 1, item 5);

first to  $i$ th switching elements, each of which is connected to a  $j$ th scan line ( $1 \leq j$ ,  $j$  is an integer) and a  $j$ th color component signal line and is controlled by a  $j$ th select signal supplied to the  $j$ th scan line (See Fig. 1, item 6);

first to  $i$ th pixel electrodes, each of which is connected to a  $j$ th switching element (See Fig. 1, item 4); and

first to  $i$ th demultiplex switching elements, each of which is connected to the  $j$ th color component signal line at one end and to a signal line at the other end, and is controlled by a  $j$ th demultiplex control signal, multiplexed first to  $i$ th color component signals being output to the signal line (See Figs. 9-10, items 60-61, Col. 8, Lines 44-62),

wherein the select signal generation circuit generates the  $j$ th select signal so that at least the  $j$ th switching element is in an ON state when a  $j$ th demultiplex switching element shifts from an ON state to an OFF state and that the  $j$ th switching element is set to an OFF state before the  $j$ th demultiplex switching element is set to the ON state again after the  $j$ th demultiplex switching element has shifted to the OFF state (See Fig. 9, items 60-61, Col. 9, Lines 4-7).

Cairns et al. does not disclose a select signal generation circuit which generates first to  $j$ th select signals, the first to  $i$ th select signals controlling the first to  $i$ th switching elements based on first to  $i$ th demultiplex control signals respectively.

Knapp et al. teaches a select signal generation circuit which generates first to  $j$ th select signals, the first to  $i$ th select signals controlling the first to  $i$ th switching elements based on first to  $i$ th demultiplex control signals respectively (See Figs. 3, 5, items G1-G3, from Col. 6, Line 46 to Col. 7, Line 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Knapp et al. into Cairns et al. system in order to simplify fabrication of the display device (See Col. 2, Lines 31-42 in the Knapp et al. reference).

### ***Allowable Subject Matter***

3. Claims 2-4, 7-9, 11-13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claims 2, 7, 11 the major difference between the teaching of the prior art of record (Cairns et al., and Knapp et al.) and the instant invention is that the select signal generation circuit includes first to ith flip-flops, each of which outputs the jth select signal, and wherein, in a case where the first to ith demultiplex control signals cyclically go active in order from the first to ith demultiplex control signals, a jth flip-flop outputs the ith select signal which is set by the jth demultiplex control signal and reset by one of the first to ith demultiplex control signals other than the jth demultiplex control signal.

Claims 3-4, 8-9, 12-13 depend on claim 2, 7, 11.

### ***Telephone Inquire***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LS  
05.25.06



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